

wherein a gas is introduced into said interior space through said opening for introduction of a gas and a radio-frequency voltage applied between said electrically conductive enclosure and said electrode creates an atmospheric pressure plasma in said interior space for processing said material to be processed within said electrically conductive enclosure.

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Claim 2 (Amended) The apparatus as described in Claim 1, wherein said mechanical action for placing said material to be processed comprises a roller.

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Claim 7 (Amended) The apparatus as described in Claim 1, wherein said apparatus is enclosed by a grounded casing and a first radio frequency voltage having a first phase is applied between said electrode and said grounded casing and a second radio frequency voltage having a second phase offset from said first phase is applied between said electrically conductive enclosure and said grounded casing.

Claim 9 (Amended) Apparatus for processing materials in an atmospheric pressure radio-frequency non-thermal plasma comprising:

an electrically conductive enclosure defining an interior space with a surface and inlets for a gas and for entry and exit of a material to be processed;

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an electrode spaced apart from said electrically conductive enclosure and capable of placing said material to be processed inside said interior space between said electrically conductive enclosure and said electrode, said material to be processed being in contact with said electrode;

wherein a gas introduced into said inlet for gas and a radio-frequency voltage applied between said electrically conductive enclosure and said electrode creates an atmospheric pressure plasma in said interior space for processing said material to be processed as it passes through said electrically conductive enclosure.

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Claim 16 (Amended) The apparatus as described in Claim 9, wherein said apparatus is enclosed by a grounded casing and a first radio frequency voltage having a first phase is applied between said electrode and said grounded casing and a second